

CLAIMS

What is claimed is:

1. An apparatus comprising:

2 a housing;

3 a mainboard including memory and a first processor mounted

4 within the housing;

5 a first network interface having a first network port and a first

6 address connected to the first processor;

7 at least one expansion slot for receiving a peripheral device: and

8 a network communications link connecting the first network

9 interface to said at least one expansion slot substantially disposed within

10 the housing,

11 wherein the first processor is enabled to communicate with a

12 peripheral device having a build-in network interface by transmitting data

13 via the first network interface and the built-in network interface over the

14 network communications link using a network transmission protocol.

2. The apparatus of claim 1, further comprising a second network

interface disposed on the mainboard in proximity to said at least one

expansion slot having a second address and a second network port to

enable communication between the first processor and a peripheral

5 device that does not include a built-in network interface when the  
 6 peripheral device is mounted in one of said at least one expansion slots.

1 3. The apparatus of claim 1, wherein the network communications  
 2 link comprises a network bus embedded in the mainboard.

1 4. The apparatus of claim 1, wherein the first network interface and  
 2 the communications link comprise an Ethernet subnet.

1 5. The apparatus of claim 1, further comprising:  
 2 a second processor; and  
 3 a second network interface connected to the second processor and  
 4 the network communications link to enable communication between the  
 5 second processor and a peripheral device having a built-in network  
 6 interface.

1 6. A system comprising:  
 2 a computing machine including a housing and a mainboard to  
 3 which memory and a first processor are connected, providing a first  
 4 network interface having a first network port and a first address;  
 5 a first peripheral device disposed within the housing;

6 a second network interface providing a second network port and a  
 7 second network address linked in communication with the first peripheral  
 8 device;  
 9 a communications link between the first and second network  
 10 interfaces substantially disposed within the housing; and  
 11 software comprising machine instructions that are executable by  
 12 the first processor that includes a socket application interface (API) that  
 13 binds the address of the first peripheral device to the second network port  
 14 and a network interface abstraction layer that provides an abstracted  
 15 interface that enables an application to communicate with the first  
 16 peripheral device using a networking protocol.

1 7. The system of claim 6, wherein the communications link and the  
 2 first and second network interfaces comprise an Ethernet subnet.

1 8. The system of claim 6, wherein the communication link  
 2 comprises a network signal bus built into the mainboard.

1 9. The system of claim 6, wherein the communications link  
 2 comprises a token ring.

1 10. The system of claim 6, wherein the second network interface is  
 2 built into the first peripheral device;

1 11. The system of claim 6, wherein the second network interface is  
2 built into the mainboard.

1 12. The system of claim 6, wherein the peripheral device  
2 comprises one of a video subsystem, a memory subsystem, a disk  
3 controller and a modem.

1 13. The system of claim 6, wherein the mainboard further includes  
2 a second processor connected to a third network interface having a third  
3 network address and network port connected to the communications link.

1 14. A method for enabling communication between a peripheral  
2 device disposed within a computing machine having a processor and an  
3 application running on the processor, comprising:

4 providing a network interface for each of the processor and the  
5 peripheral device;

6 providing a communication link between the network interfaces of  
7 the processor and the peripheral device;

8 creating a network socket for each of the processor and the  
9 peripheral device;

10 establishing a connection between the processor and the  
11 peripheral device;

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12 generating messages with the application;  
13 transferring the messages between the processor and the  
14 peripheral device using a network transmission protocol.  
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1 16. The method of claim 15, wherein the network transmission  
2 protocol comprises the TCP/IP protocol.

1 17. The method of claim 15, further comprising applying security  
2 measures to determine if an application may connect to a particular  
3 peripheral device.

1 18. The method of claim 15, wherein the network transmission  
2 protocol comprises the UDP protocol.

1 19. The method of claim 15, wherein the communications link and  
2 the network interfaces comprise an internal Ethernet network.

1 20. The method of claim 15, wherein the communications link and  
2 the network interfaces comprise an internal token ring network.